

AN ALLEGHANIAN RUDBECKIA

BY JOHN K. SMALL

While on excursions into various portions of the southern Alleghanias and the Blue Ridge, I have quite frequently met with a very characteristic *Rudbeckia*. It occurs more frequently at altitudes between 1000 and 1600 meters, although sometimes it may be found at elevations a little lower or considerably higher than those just indicated. As far as its biological distribution is concerned, it is mainly confined to the Alleghanian life-zone and thrives best in such localities as are inhabited by *Solidago monticola*, *Gaylussacia ursina* and *Vaccinium pallidum*. So far as I can learn, this species has never been described, but may now be characterized as follows :

Rudbeckia monticola

Perennial by short horizontal or oblique rootstocks. Foliage hirsute or hirsute-hispid : stems 3-11 dm. tall, sometimes tufted, normally simple, occasionally branched above : leaves few ; blades oblong, elliptical, oval or ovate, 5-10 cm. long, sharply serrate, sometimes shallowly so, those of the basal and lower stem-leaves with winged petioles or petiole-like bases, those of the upper stem-leaves sessile and usually partly clasping by their broad bases : bracts of the involucre linear to linear-lanceolate, 1-1.5 cm. long, bristly hirsute, reflexed : ray-flowers several ; ligules bright yellow, 2-3.5 cm. long : disk hemispheric to ovoid, 12-18 mm. broad, dark purple-brown to almost black at maturity : bractlets acute, ciliate near the slightly broadened tips : disk-corollas 3-3.5 mm. long : achenes 2.5 mm. long, slightly enlarged upward, finely longitudinally ribbed and very minutely pitted.

In woods, West Virginia to North Carolina, Georgia, Tennessee and Alabama. Summer.

Rudbeckia monticola is related to *R. hirta* from which it may easily be separated at sight by the sharply serrate blades of the upper stem-leaves with their broad partly clasping bases. The type is preserved in the herbarium of the New York Botanical Garden. The following cited specimens belong here :

WEST VIRGINIA : White Sulphur Springs, July 16, 1892, *A. Brown*.

NORTH CAROLINA : Haywood Co., July, 1885, *M. E. Hyams* ; Swain Co., July 12, 1891, *Beardslee & Kofoid* ; Biltmore, June 10, 1896, Biltmore Herbarium no. 852 ; Hendersonville, June 29, 1898, Biltmore Herbarium no. 852a.

TENNESSEE : White Cliff Springs, July 11, 1894, *T. H. Kearney, Jr.* ; Lookout Mountain, June 28, 1897, *H. Eggert* ; Wolf Creek, August, 1896, *A. Ruth*, no. 4055.

GEORGIA: Tallulah Falls, August 8, 1893, *J. K. Small*; Thomas Bald, August 9, 1893, *J. K. Small*; Estotoah Falls, August 11-12, 1893, *J. K. Small* (type); Stone Mountain, July 27, 1893, *J. K. Small*.

ALABAMA: Auburn, June 5, 1897, *Earle & Baker*, no. 276.

DIEMBRYONY IN CORN

BY BYRON D. HALSTED

In making some germination tests of corn upon a large scale a single grain was met with that showed a double embryo—one apparently normal and the other secondary. The grain in germination was lying with the embryo side downward so that the main plantlet needed to turn upward around one side of the grain making a J-shaped curve. The smaller shoot grew nearly parallel with the first one and stood close to it, although much smaller. The grain was transferred from the germinating dish to earth in a flower pot and supplied with conditions for further growth, at which time each plantlet had a main root.



After growing as long as the smaller plant would, the two were removed and a photograph taken from which the little side engraving has been made.

It is seen that one plant grew quite normally, while the other remained small and attempted to produce two ears, but without tassel, and no grains were obtained.

It only needs to be said that the case in hand was a yellow grain from an ear picked upon the College Farm and brought to me, because it was the only one of a large field that had dark, nearly cherry-colored grains mixed in almost equal numbers with